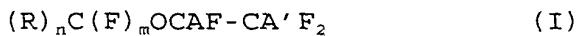


CLAIMS

1. A process to prepare (per)fluorohalogenethers having general formula (I):



wherein:

A and A', equal to or different the one from the other, are Cl or Br;

R = F or a fluorinated, preferably perfluorinated, substituent, selected from the following groups:

linear or branched C₁-C₂₀ alkyl; C₃-C, cycloalkyl; aromatic, C₆-C₁₀ arylalkyl; C₅-C₁₀ heterocyclic or alkylheterocyclic;

when R is fluorinated or perfluorinated alkyl, cycloalkyl, it can optionally contain in the chain one or more oxygen atoms;

when R is fluorinated it can optionally contain one or more H atoms and/or one more halogen atoms different from F;

n is an integer and is 1 or 2;

m = 3-n;

by reaction of carbonyl compounds having formula (II):



wherein:

p is an integer and is 1 or 2;

q is an integer and is zero or 1,

with the proviso that when p = 2, q = 0; when p = 1, q = 1;

R is as above defined;

in liquid phase with elemental fluorine and with olefinic compounds having formula (III):



wherein A and A' are as above defined,

operating at temperatures from -120°C to -20°C, preferably from -100°C to -40°C, optionally in the presence of a solvent inert under the reaction conditions.

2. A process according to claim 1 wherein the fluorine used in the reaction is diluted with an inert gas.
3. A process according to claims 1-2 wherein the formula (II) compounds are acylfluorides selected from COF_2 , CF_3COF , $\text{C}_2\text{F}_5\text{COF}$, $\text{C}_3\text{F}_7\text{COF}$, $\text{C}_7\text{F}_{15}\text{COF}$, $\text{CF}_3\text{CF}_2\text{CF}(\text{OCF}_3)\text{CF}_2\text{COF}$, $\text{CF}_3\text{O}(\text{CF}_2)_2\text{COF}$; ketones selected between hexafluoroacetone, perfluorodiisopropylketone.
4. A process according to claims 1-4 wherein the formula (II) compounds are acylfluorides.
5. A process according to claims 1-4 wherein the formula (III) compounds are selected from 1,2-dichloro-1,2-difluoroethylene (CFC 1112), 1,2-dibromo-1,2-difluoroethylene, preferably CFC 1112.

6. A process according to claims 1-5, wherein the reaction can be carried out in a semicontinuous or continuous way.
7. A process according to claim 6 wherein in the semicontinuous process the molar ratio between the carbonyl compound (II) and the olefin (III) ranges from 0.05 to 10.
8. A process according to claim 6 wherein in the continuous process the molar ratio between the carbonyl compound (II) and the olefin (III) ranges from 0.05 to 10, the molar ratio fluorine/olefin (III) ranges from 0.05 to 10.